

20. (ONCE AMENDED) An optical reproducer which reproduces data from a plurality of different types of discs using a single optical pickup, the optical disc discrimination apparatus comprising:

a data reproducing device which reproduces the data by illuminating an optical beam on a loaded one of the optical discs, receive the reflected optical beam, to generate an RF signal;

an RF envelope generator which generates an envelope signal from the RF signal; and

a controller which detects an amplitude of the envelope signal only when a focusing operation of the disc is being performed prior to a tracking control operation of the disc being performed, to discriminate the type of the loaded disc, wherein the controller controls the reproduction of the disc in accordance with the discriminated disc type.

25. (ONCE AMENDED) An optical disc reproduction method of reproducing data from a plurality of different types of discs using a single optical pickup, the optical disc reproduction method comprising:

reproducing the data by illuminating an optical beam on a loaded one of the optical discs, receive the reflected optical beam, to generate an RF signal;

generating an envelope signal from the RF signal; and

detecting an amplitude of the envelope signal only when a focusing operation of the disc is being performed prior to a tracking control operation of the disc being performed, to discriminate the type of the loaded disc, and controlling the reproduction of the disc in accordance with the discriminated disc type.

REMARKS

INTRODUCTION:

In accordance with the foregoing, claims 12, 20, and 25 has been amended to improve clarity. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-28 are pending and under consideration.

REJECTION UNDER 35 U.S.C. § 102:

In the Office Action, at page 2, claims 1-9, 11-17, and 19-28 were rejected under 35 U.S.C. § 102 in view of U.S. Patent No. 6,298,024 to Nomura ("Nomura"). This rejection is

traversed and reconsideration is requested.

Nomura generally describes a disc type identifying section 11 identifying a type of an optical disc 1 on the basis of an amplitude indicating signal RFAMP, and outputs an identification result signal DTTYPE. See column 5, lines 49-56. Further, a subtracter 32 calculates the difference Vamp between the maximum V-peak and minimum V-bottom of the amplitude indicating signal RFAMP by subtracting an output of the lower envelope detector 31 from an output of the upper envelope detector 30. See column 6, lines 57-62. A comparator 33 acting as difference comparing means compares the voltage of a comparative voltage source 34 with the difference Vamp between a maximum value and a minimum value of the amplitude indicating signal RFAMP obtained by the subtracter 32, and outputs the result of the comparison as the identification result signal DTTYPE. See column 6, lines 62-67. A controller 12 receives the identification result signal DTTYPE from the disc type identifying section 11, controls a servo controlling section 7, a readout signal controlling section 8 (or the optical pickup 4), etc., as necessary. See column 5, lines 56-60.

However, Nomura fails to teach or suggest that the identification result signal DTTYPE received by the controller 12 is "an amplitude of the envelope signal at an off-track state of the loaded disc," emphasis added, as recited in independent claim 1. Rather, the identification result signal DTTYPE used by the controller 12 of Nomura to control the servo controlling section 7, the readout signal controlling section 8, etc., is merely a difference between the maximum and minimum values of the amplitude signal obtained. There is no teaching or suggestion that the amplitude is obtained at the off-track state of the loaded disc. Accordingly, it is respectfully asserted that Nomura fails to teach or suggest all the claimed features of independent claim 1. It is requested that independent claim 1 and related dependent claims be allowed.

Referring to independent claim 12, this claim recites "obtaining an envelope signal from an RF signal detected from one of discs which is loaded in the optical disc reproducer, **at an off-track state of the loaded disc**," emphasis added. The arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claim 12 and related dependent claims. Furthermore, Nomura describes comparing the **voltage of the comparative voltage source 34 with the difference Vamp between the maximum value and minimum value** of the amplitude indicating signal RFAMP obtained by the subtracter 32. (Emphasis added) However, Nomura fails to teach or suggest, "comparing the **amplitude of the envelope signal with at least one predetermined reference**

level," emphasis added, as recited in independent claim 12. Accordingly, it is respectfully asserted that Nomura fails to teach or suggest all the claimed features of independent claim 12. It is requested that independent claim 12 and related dependent claims be allowed.

Independent claim 20 recites "a controller which detects an amplitude of the envelope signal **only when a focusing operation of the disc being performed prior to a tracking control operation of the disc being performed**, to discriminate the type of the loaded disc, wherein the controller controls the reproduction of the disc in accordance with the discriminated disc type." In contrast, Nomura identifies the type of the optical disc 1 on the basis of an amplitude indicating signal RFAMP, and outputs an identification result signal DTTYPE. See column 5, lines 49-56. The subtracter 32 calculates the difference Vamp between the maximum V-peak and minimum V-bottom of the amplitude indicating signal RFAMP by subtracting an output of the lower envelope detector 31 from an output of the upper envelope detector 30. See column 6, lines 57-62. Accordingly, the amplitude indicating signal RFAMP is obtained at all times rather than "only when a focusing operation of the disc being performed prior to a tracking control operation of the disc being performed," as recited in independent claim 20. Accordingly, it is respectfully asserted that Nomura fails to teach or suggest all the claimed features of independent claim 20. It is requested that independent claim 20 and related dependent claims be allowed.

Independent claim 25 recited "detecting an amplitude of the envelope signal only when a focusing operation of the disc is being performed prior to a tracking control operation of the disc being performed, to discriminate the type of the loaded disc, and controlling the reproduction of the disc in accordance with the discriminated disc type." The arguments presented above supporting the patentability of independent claim 12 are incorporated herein to support the patentability of independent claim 25 and related dependent claims. Accordingly, it is respectfully asserted that Nomura fails to teach or suggest all the claimed features of independent claim 25. It is requested that independent claim 25 and related dependent claims be allowed.

REJECTION UNDER 35 U.S.C. § 103:

In the Office Action, at page 9, claims 10 and 18 were rejected under 35 U.S.C. § 103 in view of Nomura and U.S. Patent No. 6,298,024 to Iwata et al. ("Iwata"). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

Dependent claim 10 depends on independent claim 1 and dependent claim 3. Dependent claim 18 depends on independent claim 12. Accordingly, Nomura and Iwata, individually or combined, must teach the claimed features of independent claims 1 and 12. The description of the device of Nomura and arguments presented above supporting the patentability of independent claims 1 and 12 are incorporated herein. ✓

Iwata generally describes that optical characteristics of an optical disk, e.g., CD or DVD (particularly high density DVD), are determined on the basis of an output signal from a photo-detector 8, and a switch 12 is operated in accordance with the determination result. See column 5, lines 47-52. Specifically, it is determined whether the reproduced signal is being normally reproduced, and if the reproduced signal is detected as noise; the switch 12 is changed over. See column 5, lines 52-55. However, similar to Nomura, Iwata is silent as to providing "a controller which detects an amplitude of the envelope signal at an off-track state of the loaded disc, and discriminates the type of the loaded disc using the detected amplitude," as recited in independent claim 1. There is no teaching or suggestion that the amplitude is obtained at the off-track state of the loaded disc. Accordingly, it is respectfully asserted that Nomura and Iwata, individually or combined, fail to teach or suggest all the claimed features of independent claim 1. It is requested that independent claim 1 and related dependent claim 10 be allowed. ✓

Furthermore, Iwata is silent as to providing "obtaining an envelope signal from an RF signal detected from one of discs which is loaded in the optical disc reproducer, at an off-track state of the loaded disc," as recited in independent claim 12. Furthermore, Iwata fails to teach or suggest "comparing the **amplitude** of the envelope signal with at least one predetermined **reference level**," emphasis added, as recited in independent claim 12. Rather, Iwata merely describes determining whether the reproduced signal is being normally reproduced, and if the reproduced signal is detected as noise, the switch 12 is changed over. See column 5, lines 52-55. Accordingly, it is respectfully asserted that Nomura and Iwata, individually or combined, fail to teach or suggest all the claimed features of independent claim 12. It is requested that independent claim 12 and related dependent claim 18 be allowed. ✓

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the prior art. Thus, there being no further

outstanding objections or rejections, the application is submitted as being in condition for allowance, which action is earnestly solicited.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please AMEND claims 12, 20, and 25:

12. (ONCE AMENDED) An optical disc discrimination method of discriminating a type of a disc for use in an optical disc reproducer which reproduces data from a plurality of discs with only a single optical pickup, the optical disc discrimination method comprising:

- (a) obtaining an envelope signal from [a] an RF signal detected from one of discs which is loaded in the optical disc reproducer, at an off-track state of the loaded disc;
- (b) detecting an amplitude of the envelope signal;
- (c) comparing the amplitude of the envelope signal with at least one predetermined reference level; and
- (d) discriminating whether the loaded disc is a CD, a DVD-ROM, or a DVD-RAM based on the comparison.

20. (ONCE AMENDED) An optical reproducer which reproduces data from a plurality of different types of discs using a single optical pickup, the optical disc discrimination apparatus comprising:

a data reproducing device which reproduces the data by illuminating an optical beam on a loaded one of the optical discs, receive the reflected optical beam, to generate an RF signal;
an RF envelope generator which generates an envelope signal from the RF signal; and
a controller which detects an amplitude of the envelope signal only when a focusing operation of the disc is being performed prior to a tracking control operation of the disc [is] being performed, to discriminate the type of the loaded disc, wherein the controller controls the reproduction of the disc in accordance with the discriminated disc type.

25. (ONCE AMENDED) An optical disc reproduction method of reproducing data from a plurality of different types of discs using a single optical pickup, the optical disc reproduction method comprising:

reproducing the data by illuminating an optical beam on a loaded one of the optical discs, receive the reflected optical beam, to generate an RF signal;
generating an envelope signal from the RF signal; and
detecting an amplitude of the envelope signal only when a focusing operation of the disc

is being performed prior to a tracking control operation of the disc [is] being performed, to discriminate the type of the loaded disc, and controlling the reproduction of the disc in accordance with the discriminated disc type.